

# 2025 MISSOURI DIABETES REPORT



MISSOURI DEPARTMENT OF  
**HEALTH &  
SENIOR SERVICES**

*Missouri Department of*  
**SOCIAL SERVICES**

*Report to the General Assembly on diabetes-related efforts of the  
MO HealthNet Division and the Missouri Department of Health and Senior  
Services RSMo 191.990*

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## Part 1 – The Burden of Diabetes in Missouri

### Diabetes Prevalence in Missouri

As of 2023, it is estimated that nearly 600,000 adults aged 18 or older in Missouri have been diagnosed with diabetes, representing a prevalence of 12.3% (see Table 1). This demonstrates an increase from 2021 when the prevalence was 11.2%. The trends in diabetes prevalence in Missouri show an increase with age, with adults aged 45 to 64 having a diagnosis rate over four times higher than those aged 25 to 44 (17.1% vs. 3.9%, respectively). In 2023, there was no discernible disparity in the prevalence of diagnosed diabetes between males and females (12.7% vs. 12.0%), contrasting previous years when males exhibited a slightly higher prevalence of diabetes compared to females. Adults living in households with a combined income of \$25,000 or less have a prevalence approximately 2.5 times higher than those living in households with a combined income greater than \$75,000 (21.7% vs. 8.3%, respectively). Moreover, individuals with education beyond high school have a lower prevalence of diabetes (11.3%) compared to those who did not finish high school (21.4%).<sup>1</sup> According to the 2017-March 2020 National Health and Nutrition Examination Survey, an estimated 3.4% of adults in the United States have undiagnosed diabetes.<sup>2</sup> Assuming a similar prevalence in Missouri, it is likely that there are more than 160,000 additional cases of diabetes that have not been accounted for in the current data.

Table 1: Prevalence of Diabetes among Adults, Missouri 2023							
	Estimated Number	Percent	95% CI		Estimated Number	Percent	95% CI
<b>Overall</b>	<b>763,137</b>	<b>15.7</b>		<b>Household Income (\$)</b>			
<i>Diagnosed</i>	598,340	12.3	(11.4-13.3)	<i>≤25,000</i>	125,512	21.7	(18.1-25.4)
<i>Undiagnosed</i>	164,797	3.4*	(2.7-4.2)	<i>25,000-34,999</i>	66,269	20.2	(10.1-16.7)
<b>Age (years)</b>				<i>35,000-49,999</i>	85,584	13.9	(11.1-16.7)
<i>18-24</i>	na	na	na	<i>50,000-74,999</i>	72,997	11.4	(8.9-14.0)
<i>25-44</i>	60,036	3.9	(2.5-5.2)	<i>75,000+</i>	132,044	8.3	(6.7-9.9)
<i>45-64</i>	254,682	17.1	(15-19.2)	<b>Education</b>			
<i>65+</i>	283,254	23.7	(21.5-25.9)	<i>Less than High School</i>	96,148	21.4	(16.1-26.7)
<b>Race</b>				<i>High School or Equivalent</i>	175,977	11.7	(10.1-13.4)
<i>White (NH)</i>	461,973	12.6	(11.5-13.8)	<i>More than High School</i>	326,019	11.3	(10.2-12.4)
<i>Black (NH)</i>	76,012	14.8	(11.4-18.2)	<b>Insurance Status</b>			
<i>Other**</i>	45,672	7.7	(5.2-10.1)	<i>Insured</i>	26,394	8.7	(4.5-12.8)
<b>Sex</b>				<i>Uninsured</i>	558,173	12.8	(11.7-13.8)
<i>Male</i>	297,211	12.7	(11.2-14.2)				
<i>Female</i>	301,129	12.0	(10.7-13.3)				

Source: Missouri Behavioral Risk Factor Surveillance System, 2023. MO DHSS, Office of Epidemiology

\*National Health and Nutrition Examination Survey. <https://www.cdc.gov/diabetes/php/data-research/index.html>

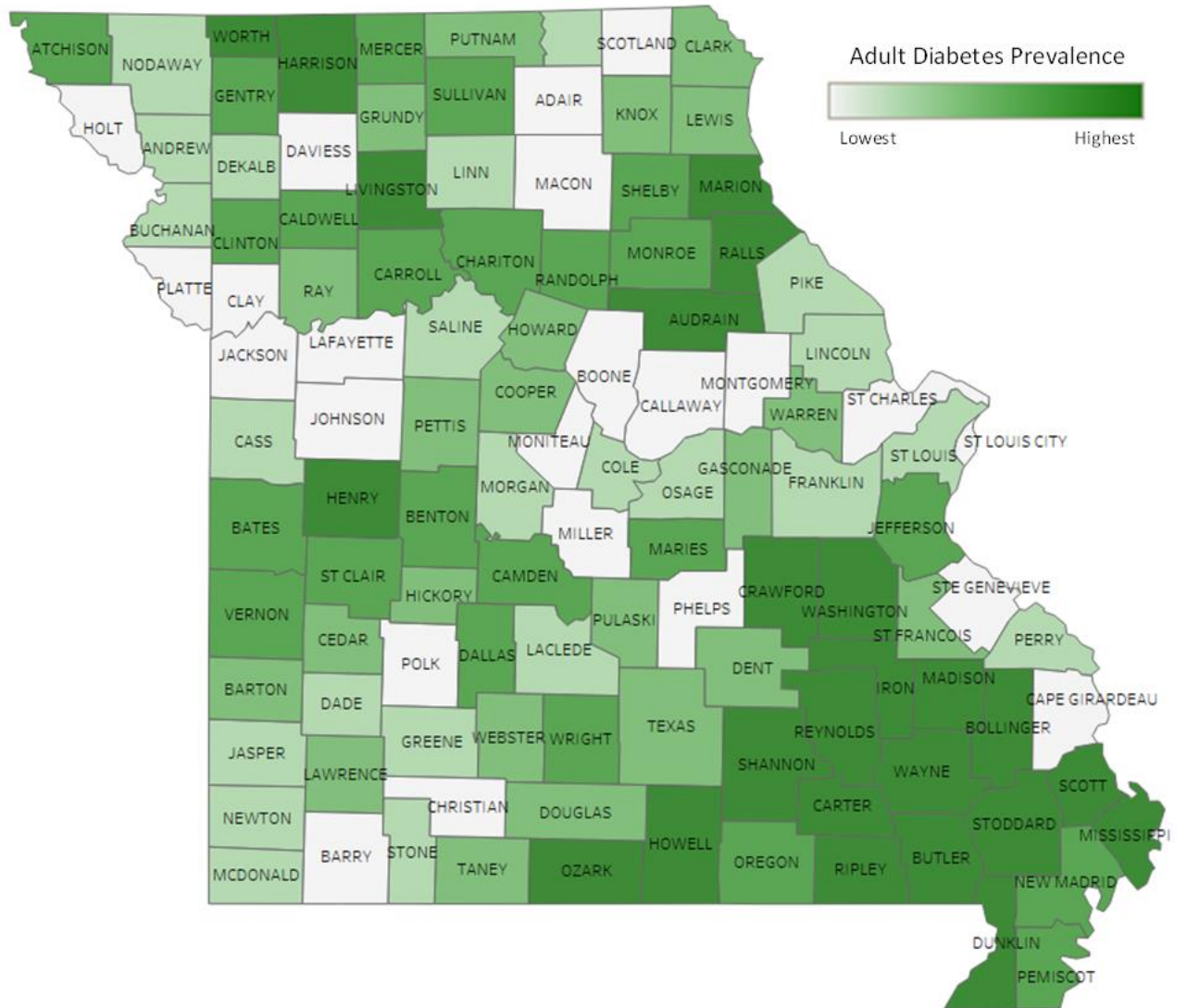
\*\* Including Hispanic

na, prevalence estimates not available due to inadequate sample size; NH, non-Hispanic

Notes: Denominator excludes respondents with do not know/refused/missing responses.

Map 1 shows the prevalence of diagnosed diabetes in 2022, which varied across the state. Prevalence rates were highest in south-central and southeast Missouri, whereas the lowest prevalence rates occurred along the Interstate 70 corridor.

Map 1. Prevalence of Diabetes in Missouri Counties, 2022



Source: 2022 Missouri County-Level Study

### Diabetes Hospitalizations and Deaths

In 2022, there were 15,100 emergency room (ER) visits and 15,698 inpatient hospitalizations due to a primary diagnosis of diabetes. Compared to 2020, ER visits increased by 2.7%, while inpatient hospitalizations increased by more than 6.5%. The highest rate of ER visits was held by adults aged 45-64 (3.85 per 1,000 population), whereas adults aged 65 and older had the highest rate of inpatient hospitalizations (44.51 per 10,000 population). Both age groups had rates significantly higher than the corresponding state rate. The under-15 age group had the lowest rates for ER visits and inpatient hospitalizations (0.70 and 4.18). There were 1,877 deaths due to diabetes in 2022, resulting in an age-adjusted rate of 23.4 per 100,000 population. Diabetes was ranked eighth among the leading causes of

death in Missouri in 2022. The 65 and older age group had the most deaths (1,330) and the highest death rate (119.4).<sup>1</sup>

**Table 2: Diabetes Emergency Room, Hospitalization and Death Counts and Rates, Missouri 2022**

	Emergency Room Visits			Hospitalization			Deaths		
	Count	Rate per 1,000	95% CI	Count	Rate per 10,000	95% CI	Count	Rate per 100,000	95% CI
<b>Total</b>	<b>15,100</b>	<b>2.32</b>	<b>(2.3-2.4)</b>	<b>15,698</b>	<b>22.97</b>	<b>(22.6-23.3)</b>	<b>1,877</b>	<b>23.4</b>	<b>(22.2-24.6)</b>
<b>Age Group</b>									
Less than 15	785	0.70	(0.65-0.75)	468	4.18	(3.8-4.6)	#	#	#
15-24	1,223	1.49	(1.4-1.6)	1,023	12.43	(11.7-13.2)	8	0.97*	(0.4-1.9)
25-44	3,672	2.29	(2.2-2.4)	3,322	20.75	(20.0-21.5)	88	5.5	(4.4-6.8)
45-64	5,838	3.85	(3.7-3.9)	5,918	38.98	(38.0-40.0)	450	29.6	(27.0-32.5)
65+	3,582	3.21	(3.1-3.3)	4,960	44.51	(43.3-45.7)	1,330	119.4	(112.9-125.8)
<b>Race</b>									
White	10,811	1.97	(1.9-2.0)	11,195	19.10	(18.7-19.5)	1,575	22.2	(20.9-23.5)
African-American	3,457	4.88	(4.7-5.0)	3,767	52.42	(50.8-54.1)	262	37.4	(33.1-42.1)
<b>Sex</b>									
Male	7,543	2.36	(2.3-2.4)	8,965	26.83	(26.2-27.4)	1,041	29.2	(27.3-31.1)
Female	7,557	2.29	(2.2-2.3)	6,732	19.46	(19.0-19.9)	836	18.8	(17.3-20.3)

\* Rate is unreliable; the numerator is less than 20 events

Records with missing demographic information were not included to calculate age-adjusted rates. Therefore, the totals will not exactly match the demographic breakouts.

# Indicates count < 5, both count and rate are suppressed.

Hospitalization totals had eight records with missing/unknown demographic information.

Sources: Missouri Patient Abstract System and Missouri Vital Statistics Death Certificate Data

## Diabetes Disparities in Missouri

The rates for ER visits (4.88) and inpatient hospitalizations (52.42) due to diabetes among Black or African American Missourians were both more than double the rates of the White population (1.97 and 19.10, respectively). Likewise, the death rate for Black or African American Missourians (37.4) was significantly higher than that of the White population (22.2). In 2022, there was no statistically significant difference in the rate of ER visits between males and females. However, males had higher rates of both inpatient hospitalizations (26.83) and death (29.2) compared to females (19.46 and 18.8, respectively). Economically, women with diabetes spend more on average than men on annual health care expenditures and Black or African Americans with diabetes pay the most in direct health care expenditures.<sup>3</sup>

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**Diabetes prevalence amongst adults living in households with a combined income of \$25,000 or less was nearly two and a half times greater than that of those living in a household with a combined income greater than \$75,000.**

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## ***The High Cost of Diabetes***

The American Diabetes Association (ADA) estimates that diagnosed diabetes costs Missouri an estimated \$6.7 billion each year.<sup>4</sup> According to the *Economic Costs of Diabetes in the U.S. in 2022* report, the total annual cost of diabetes nationally is \$412.9 billion. This is an increase of \$80 billion over the past 10 years. Diagnosed diabetes now accounts for one of every four health care dollars spent in the U.S. Spending on insulin has tripled over the past 10 years (from \$8 billion in 2012 to \$22.3 billion in 2022). Individuals with diagnosed diabetes have 2.6 times more out-of-pocket medical expenditures than those without diabetes.<sup>3</sup>

For additional data regarding diabetes risk factors, preventive care practices, complications, and more, visit the Missouri Diabetes Profile: <https://healthapps.dhss.mo.gov/MoPhims/ProfileBuilder?pc=7>.

## **Part 2 – Current Diabetes Initiatives in Missouri**

### ***MO HealthNet Division (MHD) Programs***

#### **1. Primary Care Health Home (PCHH) Program**

Missouri formally approved the Primary Care Health Home (PCHH) State Plan Amendment on December 23, 2011. Services began on January 1, 2012. In July 2011, the Department of Social Services, MO HealthNet Division (MHD) solicited applications from primary care providers interested in participating in the PCHH initiative. The PCHH program began with 24 primary care health home organizations operating health homes in 86 sites throughout Missouri. After four additional open enrollment periods, 43 PCHH provider organizations have 206 clinic sites providing health home services to more than 40,000 individuals.

The populations eligible for the PCHH Program originally included those with two or more chronic conditions or one chronic condition and a risk factor for a second. Patients with diabetes have one chronic condition and are at risk for a second. Pediatric asthma and obesity (to prevent full-blown type 2 diabetes) are also now included as stand-alone qualifying conditions. Anxiety, depression, chronic pain and substance use disorder now qualify as conditions that require a second qualifying condition or risk factor for enrollment.

Current enrollment in the PCHH exceeds 40,000 a year and is steadily increasing due to the recent Medicaid Expansion. An average of 34% of all people enrolled have a diagnosis of diabetes, and 56% of all participants have obesity based on their height and weight. The nurse care managers, behavioral health consultants and primary care providers work with each participant to create an individualized patient-driven care plan that includes small steps to achieve attainable goals. This program first addresses the social determinants of health (SDOH) and the patient's overall well-being to manage stress and other challenges. According to Healthy People 2030, the SDOH are "the conditions in the environments where people are born, live, learn, work, play, worship and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. They can be grouped into five domains: economic stability, education access and quality, health care access and quality, neighborhood and build environment, and social and community context."<sup>5</sup>

## Social Determinants of Health



The PCHH programs receive annual supplementary funding to contribute to essential educational items that participants may be unable to afford independently. Items purchased include large blood pressure cuffs, low-carbohydrate food pantry items, daily pill boxes, dental kits, diabetes foot care kits, diabetes meal planner plates, glucometers, health alert bracelets, lancets, measuring cups, pedometers, scales, test strips and extra wound care dressings. The additional funding also allows extra educational time with a diabetes educator, registered dietitian, pharmacist or community health worker (CHW). The CHW works closely with participants and their home caregivers with medication support, meal planning and hands-on cooking lessons. The health home staff also use the funding to attend training to become Certified Diabetes Care and Education Specialists and National Diabetes Prevention Program (National DPP) Lifestyle Coaches.

The PCHH program participants with high blood glucose levels are encouraged to call the nurse care manager daily with their readings and meet with their provider monthly until their levels improve. With the new MO HealthNet pharmacy benefit providing participants with continuous glucose monitors (CGMs), participants can self-manage their blood sugars easily and painlessly, dramatically reducing A1cs and weight. Participants relayed that they had reduced their intake of sugary snacks and drinks when their blood sugar was monitored. Nurses reported that patients no longer seek the nearest emergency room department or urgent care when they feel unwell. Instead, the patient can effortlessly report the CGM readings, so the nurse care manager can provide telephonic help. This potentially avoids unnecessary ER and office visits. Patients reported increased satisfaction and improved health outcomes with the CGM support. The registered nurse care managers send achievement certificates when participants meet their individualized goals and successfully manage their diabetes. Nurses keep participants engaged and motivated by trying innovations such as cooking and nutrition programs, Zumba and Tai Chi classes and providing fresh fruits, herbs and vegetables through gardens or onsite chronic disease-specific food pantries.

Clinical outcomes achieved thus far include, but are not limited to, clinically significant improvements in LDL levels, blood pressure, and hemoglobin A1c (HbA1C) levels. The decreases in LDL translate to a 20% decrease in coronary heart disease; the reductions in blood pressure translate to a 16% decrease in coronary heart disease and a 42% decrease in stroke; and the reductions in HbA1c translate to a 21% decrease in diabetes mellitus related deaths, a 14% decrease in myocardial infarction and a 37% decrease in microvascular complications respectively in the impacted population<sup>6</sup>. In 2023, of the people with a first reading of HbA1c greater than nine (the blood sugar level that begins to affect multiple vital organs in the human body adversely), 23% of participants saw significant improvement in their HbA1c after 12 months in the PCHH program, and 44.19% of participants improved and maintained their new healthy HbA1c levels. Often, those participants with diabetes also have uncontrolled hypertension. Of those with high blood pressure, 48.26% improved and maintained a controlled blood pressure. The PCHH program has also demonstrated reductions in emergency department use and hospital admissions and shown associated cost savings in hospitalizations and pharmacy waste/use.

The MHD program staff works with the Missouri Primary Care Association's (MPCA) Practice Transformation Coaches to provide training and provider bulletins throughout the year for health care teams to accelerate positive outcomes for patients with diabetes. Recent training topics included *"Changing the Weight Management Conversation to Improve Patient Outcomes,"* *"Empowering Patients Through Self-Management Plans,"* *"Care Teams – Adult Obesity: Understanding the Disease and Treatment,"* *"Care Teams – Pediatric Populations and Obesity,"* and *"Untangling Chronic Disease and Trauma: Understanding Suffering and Strategies to Heal."* The PCHH providers network with other health care teams to improve workflows and learn about new and tested diabetes interventions.

MHD also currently provides funding for over 80 CHWs in 29 community health centers (CHCs) across Missouri to assist high-risk, medically complex individuals with managing their health care and addressing needs related to SDOH. The addition of these services resulted from the CHW pilot in southwest Missouri that showed greater reductions in emergency department visits for individuals enrolled in a PCHH who had access to a CHW compared to those who did not (38% decrease compared to 8% decrease). The pilot also showed greater reductions in hospitalizations (a 16.6% decrease for individuals with a CHW compared to a 6% decrease in individuals who did not have access to a CHW).

MHD will continue to support Great Mines Health Center (GMHC) through the state fiscal year 2025 for the CHW High Utilizer pilot program. GMHC collaborated with Washington County Ambulance District (WCAD) and designed its pilot program to avoid unnecessary transports and reduce the number of clients with uncontrolled diabetes. CHWs are working jointly with WCAD to help lower emergency department visit rates, provide resources and educate the population with uncontrolled diabetes within Washington County. This includes delivering diabetes prevention and management programs. Through this program, chronic care patients do not need to leave their homes, allowing for better compliance. In-home appointments through this partnership are scheduled and tracked through GMHC's electronic medical record (EMR).

## **2. Managed Care and Disease Management**

The managed care plans provide care management and/or disease management services to select members, as outlined below. The health plans evaluate members to determine eligibility for these services.

Care management services focus on enhancing and coordinating a member's care across an episode or continuum of care; negotiating, procuring and coordinating services and resources

needed by members/families with complex issues; ensuring and facilitating the achievement of quality, clinical and cost outcomes; intervening at critical points for individual members; addressing and resolving patterns of issues that have negative quality cost impact and creating opportunities and systems to enhance outcomes. The health plans may use Section 2703 designated health home providers or Local Community Care Coordination Program (LCCCP) providers to perform care management functions if the health home practice and LCCCP provider are members of the health plan network.

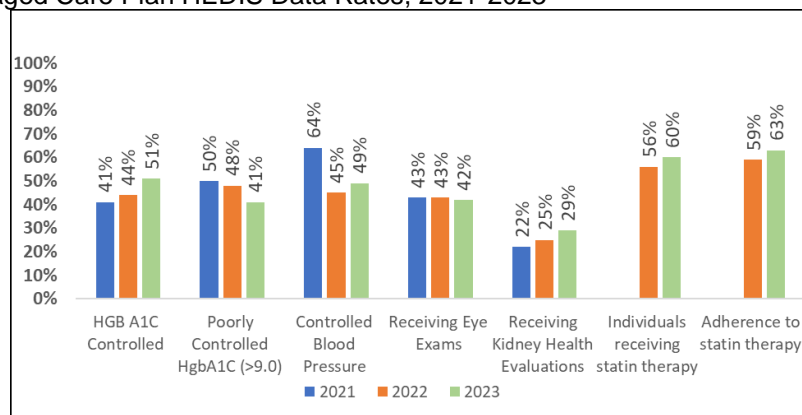
Disease management involves the intensive management of a particular disease or syndrome. Disease management encompasses all care settings and heavily emphasizes prevention and maintenance. It is similar to care management but more focused on a defined set of programs relative to an illness or syndrome.<sup>7</sup> The health plans provide disease management programs for major depression, asthma and at least one of the following: obesity, diabetes, hypertension or attention deficit hyperactivity disorder (ADHD). The health plan may use Section 2703 designated health home providers to perform disease management functions if the health home practice is a member of the health plan network.

The health plans also develop and provide a Local Community Care Coordination Program (LCCCP) using a delivery model of choice that includes care management, care coordination and disease management with a local health care provider. All LCCCPs incorporate the following principles: all members will have a selected primary care provider; a physician-directed team collectively provides care for the member; care coordination across all aspects of health care; care management services and recognition and referral to necessary community and social support resources.

In addition to the services listed in the comprehensive benefits package, the health plans provide specified services to children under 21 years of age and pregnant women with Medical Eligibility (ME) codes 18, 43, 44, 45, and 61. This includes diabetes self-management training for persons with gestational, type 1, or type 2 diabetes.

Healthcare Effectiveness Data and Information Set (HEDIS) data is one of health care's most widely used performance improvement tools. Chart 1 below provides MO HealthNet Managed Care Plan HEDIS rates from 2021-2023 specific to individuals with diabetes. Due to a slight change in the HEDIS rate measurement for statin therapy since 2021, these two measures do not include 2021 rates. An upward trend shows improvement for these HEDIS rates, except for individuals with poorly controlled hemoglobin A1C (HgbA1c), where we would expect a downward trend.

Chart 1. Managed Care Plan HEDIS Data Rates, 2021-2023



### 3. Home Telemonitoring, Wireless Patient Reminder Services Program and Medication Therapy Management

Telemonitoring is a small, contracted program for patients who meet specific criteria, including chronic diagnoses such as diabetes and patients with frequent hospital and/or emergency department visits. The contractor, CoxHealth at Home, supplies in-home monitors that collect patients' vital signs and other clinical information and relay the data electronically to a nursing station for analysis and oversight. When problems arise with a patient's blood glucose, blood pressure, weight, etc., the nursing staff can intervene and/or visit the patient's home. If necessary, the nurse will direct the patient to medical treatment. The goal is to reduce hospital and/or emergency department admissions. For the state fiscal year 2024, an average of 83 patients per month were enrolled in the telemonitoring program.

The Wireless Patient Reminder Services Program utilizes PageMinder as a contractor to provide wireless patient reminder notification services to individuals with chronic conditions, including diabetes. Notifications include reminders to take medications at scheduled times, test blood sugar, etc. Goals include helping patients adhere to their treatment regimens to avoid unnecessary hospitalizations and emergency department visits. For the state fiscal year 2024, an average of 526 patients enrolled each month in the Wireless Patient Reminder Services Program.

Medication Therapy Management (MTM) is a professional service for pharmacists to educate and counsel patients about potential gaps in treatment. For example, a pharmacist will receive a notification that a patient using their pharmacy does not have a claim for an annual foot exam or perhaps no laboratory claims to indicate that they had a regular HbA1c screen. The pharmacist will "reserve" an intervention opportunity. When the patient arrives at the pharmacy, the pharmacist counsels the patient about the need to adhere to evidence-based treatment protocols for diabetes (among other disease states). The pharmacist must be adequately qualified and enrolled to provide and bill MHD for these services. The Centers for Medicare and Medicaid Services (CMS) approved the MTM program effective January 1, 2013, and providers continue to enroll in the program to provide interventions. In April 2023, MO HealthNet expanded pharmacist provider services to include MTM interventions that the pharmacist identifies independently, broadening the service to include more participants and disease states.

Table 3 provides MTM usage and cost savings data from 2016-2023. According to paid medical claims history, all patients who were included have a diagnosis of diabetes. While the number of patients with MTM interventions is relatively low, the pharmacy and medical cost savings are significant.

Table 3. Medication Therapy Management (MTM) Usage and Cost Savings, Missouri, 2016-2023					
	Unique Patients with Diabetes	Number of Patients with MTM Interventions	Number of MTM Interventions Provided for these Patients	Pharmacy Savings for these Patients (Annualized)	Medical Savings for these Patients (Annualized)
11/1/16 - 10/31/17	66,701	17	38	\$7,885.00	\$97,370.00
10/01/20 - 09/30/21	66,866	25	57	\$10,126.00	\$124,290.00
10/01/21 - 09/30/22	66,141	29	63	(\$11,579.00)	\$156,118.00
10/01/22 - 09/30/23	91,310	984	6,209	(\$11,998.10)	(\$20,381.24)

#### **4. Pharmacy Benefit**

On April 1, 2020, MHD bought continuous glucose monitors under the pharmacy benefit, allowing participants to receive these devices at the pharmacy with a simple prior authorization. These devices enable participants and their caregivers to monitor blood sugar levels without multiple finger sticks. Participants place the device and receive alerts and readings on their smartphone, smartwatch, or a manufacturer device. Over 7,500 MHD participants utilize a continuous glucose monitor monthly.

In 2021, MHD purchased tubeless insulin pumps under the pharmacy benefit, allowing participants to receive these devices at the pharmacy with a simple prior authorization. These devices can deliver insulin to participants and adjust the dose according to what the participant is doing, allowing them to play basketball, swim, and shower without worrying about insulin delivery. Combined with the continuous glucose monitor, participants can better control their diabetes, leading to improved long-term outcomes. Since implementing coverage, over 1,000 participants have received tubeless insulin pumps monthly through MHD.

#### **5. Biopsychosocial Treatment of Obesity for Youth and Adults**

MHD began implementation for coverage of biopsychosocial treatment of obesity for youth and adult participants on September 1, 2021, with the MO HealthNet Fee-for-Service population. Full implementation with the managed care population occurred on July 1, 2022. Youth services are available for eligible participants 20 years and younger, while adult services are available for those 21 years and older. These services follow the recommendations of the United States Preventive Services Task Force (USPSTF). These services aim to improve health outcomes for youth and adult populations by promoting improvements in weight status and reducing the incidence of comorbid conditions, such as diabetes, by focusing on the integration of medical nutrition therapy and behavioral health counseling services to facilitate behavior changes.

#### **6. Diabetes Prevention Services**

MHD implemented coverage for diabetes prevention program services for adult participants on September 1, 2020. Services are available for eligible participants ages 21 and older to prevent the progression of type 2 diabetes and improve health outcomes for high-risk adults by managing obesity and associated co-morbidities. A physician and/or other licensed practitioner recommends services focusing on structured interventions, such as the National Diabetes Prevention Program, which include behavioral counseling concentrating on weight reduction and lifestyle changes.

### **Missouri DHSS Programs**

The Diabetes and Heart Disease Program within the Bureau of Cancer and Chronic Disease Control coordinates the Department of Health and Senior Services' activities to support people with diabetes. The Centers for Disease Control and Prevention (CDC) provides most of the program's funding. In fiscal year 2024, a new five-year cooperative agreement began: CDC-RFA-DP-23-0020, *A Strategic Approach to Advancing Health Equity for Priority Populations with or at Risk for Diabetes*.

#### **1. National Diabetes Prevention Program (National DPP)**

The number of Americans with prediabetes has continued to rise with current estimates at 98 million. More than 80% of these individuals do not know that they have prediabetes. Without action, many of these individuals will develop type 2 diabetes within five years, placing them at increased risk of heart attack, stroke, blindness, kidney failure, and lower limb amputations.

The National DPP is a CDC-developed evidence-based lifestyle change program for preventing or delaying the onset of type 2 diabetes. National Institutes of Health (NIH) research has shown that individuals with prediabetes who take part in a CDC-recognized lifestyle change program decrease their risk of developing type 2 diabetes by 58% (71% for people over 60 years old).<sup>9</sup>

As of November 1, 2024, Missouri has 24 CDC-recognized National DPP suppliers.<sup>10</sup> Cumulative program enrollment from 2013 to May 1, 2024, increased to 21,767 participants (Chart 2). The most common delivery mode was online (77%) followed by in-person (20%) (Chart 3).

Chart 2. Missouri National DPP Enrollment, 2013 – July 2024

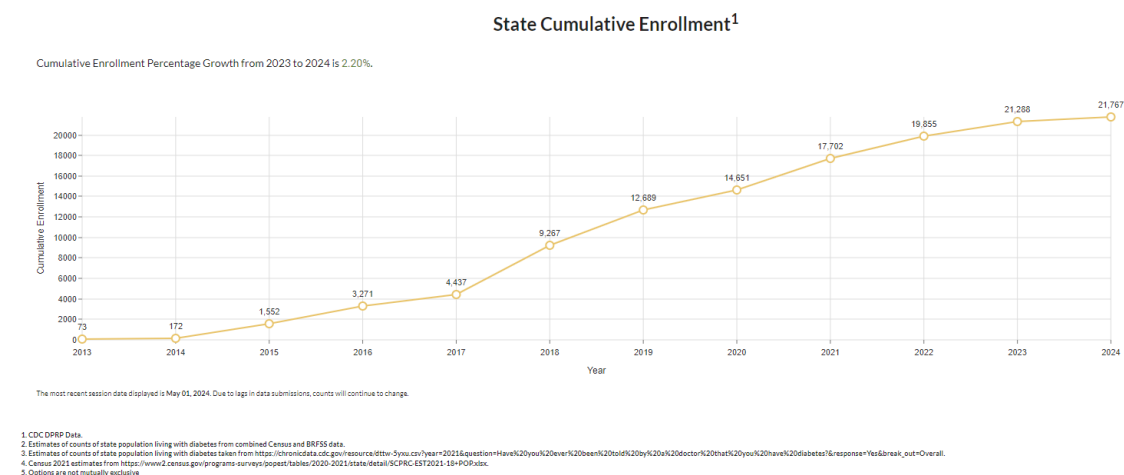
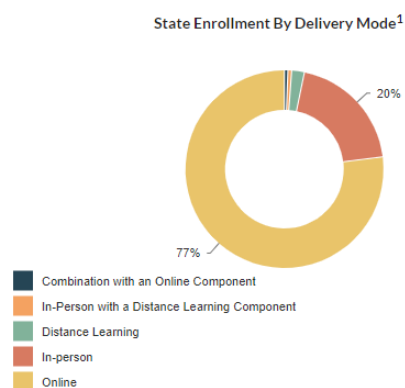


Chart 3. Missouri National DPP Enrollment by Delivery Mode, 2013 - July 2024

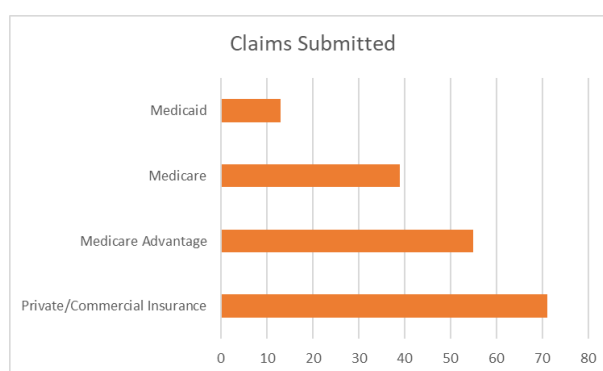


Of the 24 CDC-recognized program suppliers, 21 organizations have either achieved Medicare Diabetes Prevention Program (MDPP) supplier status or are part of the Missouri umbrella hub network, allowing them to bill Medicare for program services.<sup>11</sup> CMS's 2024 Physician Fee Schedule adjusted and simplified the National DPP reimbursement rates to boost MDPP supplier enrollment and Medicare beneficiary participation. This increase will help sustain MDPP program delivery and potentially increase the number of MDPP suppliers in the state. In fiscal year 2024, over 94 claims were billed to Medicare and Medicare Advantage plans for National DPP services.

Missouri Medicaid began coverage of the National DPP on September 1, 2020. Four National DPP program suppliers have been credentialed with MHD, and another 18 are part of the Missouri umbrella hub network, allowing them to bill Medicaid for program services.

To enhance the ability of National DPP suppliers to submit claims billing to Medicare, Medicaid and other private insurers, DHSS continues to work with HabitNu to operate the Missouri Network of National DPPs. Under the umbrella of HabitNu, National DPP suppliers can access virtual program delivery tools, a participant-facing app, a coach's dashboard, Diabetes Prevention Recognition Program (DPRP) data reports and a claims-based billing dashboard. Since 2023, HabitNu has more than doubled the number of program suppliers within the Network from eight to 18. In the state fiscal year 2024, these suppliers enrolled 292 participants and submitted claims on behalf of 178 participants (61%). HabitNu has contracted with two of Missouri's three managed care organizations (MCOs) to bill for National DPP services. See Graph 3 for a breakdown of claims by payer type.

Chart 4. National DPP Claims Submitted through the MO Network of National DPPs



Employer coverage of the National DPP is another essential strategy to reduce diabetes rates and employer health care costs. The program provides direct financial benefits (in the form of lower health care costs) and indirect financial benefits (such as increased productivity and satisfaction among employees). One study of commercially insured adults found an \$8,015 increase in medical expenditures over three years for individuals with prediabetes who later developed diabetes compared to those who did not.<sup>12</sup>

On January 1, 2024, the Missouri Consolidated Health Care Plan (MCHCP) began covering the National DPP as a benefit for all Missouri state employees. Within six months of coverage, 632 state employees enrolled for the National DPP through MCHCP's online program vendor, Lark. The MO Diabetes Program attends employee health fairs across the state to promote program awareness and encourage enrollment for those who qualify. The Diabetes Program also partners with the St. Louis Area Business Health Coalition to build awareness among employers of the potential cost savings of diabetes prevention via webinars, podcasts, and their employee wellbeing toolkit.

The Diabetes Program also supports a prediabetes awareness media campaign that began several years ago and includes placement on TV, print, Facebook, Instagram and YouTube. The fiscal year 2024 campaign created 4,063,082 measurable impressions, resulting in 34,256 click-throughs to the Missouri Take Five Steps website: [www.TakeFiveSteps.com](http://www.TakeFiveSteps.com).

Finally, the Diabetes Program continues to advance implementation of the National DPP in Missouri through the following additional activities:

- Providing technical assistance to program suppliers as needed.
- Hosting an annual program supplier meeting.
- Connecting lifestyle coaches statewide in bi-monthly collaborative calls to network and share best practices.
- Creating referral pathways for health care providers to refer patients to programs.
- Assisting in coordinating the activities of the Missouri Diabetes Shared Learning Network.
- Providing Lifestyle Coach Certification Training and Advanced Lifestyle Coach Training opportunities.

## **2. Diabetes Self-Management Education and Support (DSMES) / Diabetes Self-Management Training (DSMT)**

DSMES is an evidence-based model that provides education to individuals diagnosed with diabetes. Organizations offering DSMES services can apply for recognition by the American Diabetes Association (ADA) or accreditation by the Association of Diabetes Care and Education Specialists (ADCES). Medicare, Medicaid, and many private health plans offer DSMT (CMS uses the term training instead of education and support) reimbursement.

The Missouri Diabetes Program improves access to and participation in DSMES/DSMT programs in underserved areas by supplying funding to complete the recognition/accreditation process, coordinating partners to increase program referrals, and providing training opportunities for program delivery staff. At the end of 2023, Missouri had 56 DSMES/DSMT programs, with 17,557 total patient encounters. While this represents a decrease of 9 programs from the previous year, participation increased by 1,872 individuals.

## **3. Diabetes Self-Management Program (DSMP)**

In 2023, the Missouri Diabetes Program added a new strategy to increase access to and participation in complementary diabetes support programs and services. These programs and services assist people with diabetes in implementing self-management behaviors and addressing challenges that occur in daily life. The program is working with the Mid-America Regional Council (MARC) to create a statewide network of DSMP programs in partnership with the University of Missouri (MU) Extension. A landscape assessment was completed in 2024 to identify areas of the state lacking DSMP programs so that new programs can be launched in the coming years.

## **4. Preventing Diabetes Complications**

In Missouri, 25.8% of individuals with diabetes have diabetic retinopathy.<sup>13</sup> In 2023, the Missouri Diabetes Program began collaborating with the Missouri Optometric Association to increase diabetic retinopathy screenings in priority populations with diabetes. The program will launch several pilot projects in 2025 to identify and screen individuals with diabetes who lack the recommended annual vision test. Based on the screening results, providers will make referrals to specialty providers as needed.

Chronic kidney disease (CKD) is another potential complication of diabetes. For several years, the Missouri Diabetes Program has worked with the National Kidney Foundation (NKF) to increase CKD screening by disseminating implementation tools and educational resources with partners and health care providers across the state. The NKF is also establishing a “Show Me CKDIntercept Steering Committee” to advance multi-stakeholder engagement around the

statewide roadmap recommendations for CKD, including workgroups to address specific barriers to improving early diagnosis and appropriate management of CKD.

## **5. Pharmacist Integration**

DHSS continues contracting with the Missouri Pharmacy Association (MPA) to recruit and train new DSMES pharmacy sites. MPA then provides technical assistance and training opportunities on an ongoing basis. This includes assisting pharmacies with DSMES accreditation/reaccreditation, enrolling as providers with MHD for Medicaid reimbursement and implementing DSMES billing standards and processes.

MPA is also working with the Community Pharmacy Enhanced Services Network (CPESN) Missouri to support MTM interventions and documentation specific to patients with diabetes. The association will soon begin a pilot project to enhance these services.

## **6. Community Health Workers (CHWs)**

The CHW program began as a pilot project implemented in the Kansas City, St. Louis, Springfield and Bootheel areas. It has since spread throughout Missouri. CHW certificate programs are offered in Kansas City, St. Louis, Sedalia, Moberly, Springfield, Neosho, Charleston, Cape Girardeau, Poplar Bluff and Potosi. To become a credentialed CHW in Missouri, an individual must complete the CHW certificate course at a certified curriculum provider, submit an application and pass a background check. Credentialed CHWs must also complete 20 hours of continuing education every two years, six of which must be related to ethics.

CHWs assist medical professionals with improving health outcomes for individuals within various health care settings, local public health agencies, pharmacies and/or community organizations. CHWs work with individuals to identify barriers that prevent compliance with treatment recommendations, link community members to medical care and a range of social services and serve as liaisons with clinical and administrative staff by providing information on cultural issues affecting health. When CHWs address SDOH needs, such as safe housing, transportation, access to nutritious food, language, literacy skills, etc., it empowers clients to take their health and well-being into their own hands, increasing compliance with treatment recommendations.

To assist CHWs in meeting their continuing education requirement, the Missouri Telehealth Network facilitates a CHW ECHO (Extension of Community Healthcare Outcomes) virtual learning network. The twice-monthly CHW ECHO sessions include a panel of experts comprised of a facilitator, community college instructor, behavioral health/CHW supervisor, nurse manager, community resource staff, health literacy staff and a CHW. Each session includes a short lecture and a difficult case presentation. Attendees share information on resources that may be relevant to the case.

The Regional Kansas City CHW Collaborative, which includes Mid-America Regional Council (MARC), health care providers, community organizations and local, state and federal government, meets monthly to share resources and plan community events. Four subcommittees (Executive, Advocacy, Capacity and Sustainability) facilitate the collaborative's work. To avoid duplication of effort, Missouri Diabetes and Heart Disease Program staff participate in the monthly collaborative meetings and the Executive and Capacity Subcommittees. Lessons learned improve the process of developing a statewide program.

The St. Louis Community Health Worker Coalition (CHWCo) is the regional professional organization for CHWs in the St. Louis area. Participants from local public health agencies, community health centers, hospitals, higher educational institutions, housing developments,

community organizations and statewide organizations meet bi-monthly. The main functions of CHWCo include building capacity, institutionalizing community leadership, co-creating equitable decision-making practices, advocating for the long-term sustainability of the CHW workforce and providing a safety net for the CHW workforce.

A statewide CHW advisory committee provides recommendations to DHSS on CHW infrastructure needs. Membership includes state and local agencies, higher education institutions, health care systems, statewide organizations, CHW employers, and CHWs. The advisory committee has approved core competencies, objectives and code of ethics recommendations. The advisory committee also approved a credentialing process for individual credentialing and a certification process for curriculum providers.

## **7. Diabetes in Schools**

According to the American Diabetes Association, diabetes (type 1 or type 2) affects about 352,000 (0.35%) of American youth under the age of 20.<sup>14</sup> In Missouri, school nurses report 2,874 students with diabetes (type 1 or type 2). This number represents reporting from 491 of 558 public school districts in Missouri, or 97% of the Missouri public school population. The School Health Program focuses on professional development for school nurses and school staff to ensure that students with diabetes have the resources and support needed in school to manage their chronic health condition.

According to the literature, managing diabetes at school is most effective when collaborating with students, parents, school nurses, health care providers, teachers, counselors, coaches, transportation providers, food service employees and administrators. Support may include helping students take medications, check blood sugar levels, choose healthy foods in the cafeteria or be physically active.

The School Health Program continues to support Missouri school nurses by:

- Sponsoring webinars on diabetes management for school nurses.
- Hosting hands-on in-person workshops for school nurses about diabetes management in the school setting at least twice yearly.
- Providing resources and professional development opportunities on diabetes management in the school setting at the annual Health Office Orientation for new staff.
- Collaborating with the Missouri State Board of Nursing to offer education on delegation of care in the school setting and to further explain Cade's Law, which includes legislative provisions affecting diabetes management in schools. A webinar, "Trained Diabetes Personnel in Missouri Schools," is posted on the Missouri Healthy Schools website: <http://www.mohealthyschools.com/school-health-services.html>.
- Developing an e-learning module for afterschool program staff: <https://ccox.sites.truman.edu/2019/04/03/diabetes-education-actions-afterschool-programs-activities-3/>
- Posting up-to-date CDC tools and information about diabetes on the school health website: <https://health.mo.gov/living/families/schoolhealth/index.php>.
- Providing a new in-depth resource on the Show Me School Health website for school nurses working in schools in rural areas with children with diabetes: <https://showmeschoolhealth.org/resources/diabetes/>

## **Part 3 – Coordination between MHD and DHSS, Partners, and Stakeholders**

### ***MHD and DHSS Coordination***

The MHD and the Missouri Diabetes Program coordinate efforts on several projects. Areas of collaboration include epidemiologic and data analysis for the MHD population, medication therapy management for diabetes, and coordination in developing and implementing diabetes prevention and management services. Previously, MHD and DHSS jointly participated in a CMS-led affinity work group to study the practicality of and options for implementing the National DPP for MHD participants. This led to coverage of the National DPP by Missouri Medicaid. Both organizations just completed participation in a two-year Medicaid Beneficiary Enrollment Project, funded by the National Association of Chronic Disease Directors (NACDD), to increase enrollment and retention of Medicaid beneficiaries in the National DPP. A second iteration of this project began in November 2024 and will include the Diabetes Program, MHD and two of Missouri's managed care organizations (MCOs) to create workflows to identify and refer Medicaid beneficiaries to diabetes prevention and management programs.

Additional collaboration exists to advance shared clinical and public health goals through MHD patient care and population health management opportunities, including managed care plans' care management and disease management efforts; health home care coordination and management efforts; focusing on complex patients and coordination of activities with local community-based partners and services; exchanging data related to participants' care management and coordination and evaluating processes for working more closely with providers and partners.

### ***Missouri Diabetes Shared Learning Network***

The Missouri Diabetes Program continues its collaboration with the Missouri Hospital Association to facilitate the Missouri Diabetes Shared Learning Network. The group meets twice annually to develop and implement a statewide system for shared learning and collaboration among the community, public health, health systems and provider organizations to increase prevention and care coordination for people with diabetes. A Health Education/Health Equity/SDOH Workgroup and a Southeast Missouri Workgroup have also been created.

## **Part 4 – Action Plan**

### ***MHD Activities***

To continue to impact diabetes and prediabetes in the MHD population, MHD proposes the following:

1. MHD began implementation of coverage for evidence-based, multicomponent weight reduction services supported by the USPSTF and the Children's Service Commission Subcommittee on Childhood Obesity in the fall of 2021 and fully implemented in the managed care population in the summer of 2022. According to the USPSTF, evidence shows the utilization of intensive, multicomponent behavioral interventions in adults with obesity and elevated plasma glucose levels leads to clinically significant improvement in weight and a reduction of type 2 diabetes. Research also shows that the harms of intensive, multicomponent behavioral interventions for adults are minor to none. Therefore, USPSTF has concluded that these interventions have a moderate net benefit.<sup>15</sup>

MHD continues collaborating with subject matter experts to ensure intensive behavioral therapy services for treating and managing obesity align with industry standards. Obesity increases the risk of diabetes and higher health care expenditures. These benefits will reduce the incidence of prediabetes and mitigate the morbidity related to diabetes and diabetes-related complications.

2. MHD also implemented coverage for Diabetes Prevention Program Services based on national guidelines. MHD continues to work collaboratively with the Diabetes Program to reflect CDC guidelines and best practices in current policy. This collaboration will continue, focusing on increasing provider enrollment and participant utilization of these services.
3. MHD has completed its evaluation of adding CHWs as a provider for defined high-risk populations. The evaluation results showed a 38% reduction in emergency department visits in individuals enrolled in PCHH that had access to a CHW compared to an 8% reduction in individuals enrolled in a PCHH that did not have access to a CHW. The pilot also showed a 16.6% reduction in hospitalizations for individuals enrolled in a PCHH with access to a CHW compared to a 6% decrease for individuals enrolled in a PCHH that did not have access to a CHW.

CHWs provide community-based care coordination and education to complement clinic and hospital care coordination. They assist individuals in managing their diabetes and issues impacting their ability to manage it. CHWs improve diabetes management and follow-up, reducing morbidity and healthcare-related costs. Examples of their activities include:

- Facilitating appointments (including providing transportation).
- Following up on appointments or other instructions by making home visits.
- Communicating with primary care providers about barriers to self-management noted during home visits.
- Assisting in obtaining social and/or community services for participants.
- Assisting with post-hospitalization or emergency department visit follow-up by attempting to track down participants that primary care staff have been unable to reach.
- Participating in primary care provider meetings, when possible, to help bridge the communication gap between patient and provider.

The National Community Health Advisor Study<sup>16, 17</sup> includes seven essential roles for CHWs:

- Providing cultural mediation between communities and health and human services systems.
- Providing informal counseling and social support.
- Providing culturally appropriate health education.
- Advocating for individual and community needs.
- Ensuring that people obtain necessary services.
- Building individual and community capacity.
- Providing essential screening services.

According to the CDC, “Many interventions that integrate CHW services into health care delivery systems are associated with reductions in chronic illnesses, better medication adherence,<sup>18</sup> increased patient involvement,<sup>19</sup> improvements in overall community health<sup>20</sup> and reduced health care costs.<sup>21, 22</sup>” One study of a CHW outreach program for underserved men found a return on investment ratio of more than \$2 for each dollar invested.<sup>21</sup> Another study found an annual cost savings of around \$2,000 per Medicaid patient with diabetes when using CHWs.<sup>22</sup>

## **DHSS Activities**

The Missouri Diabetes Program focuses on 10 strategy areas within its cooperative agreement with the CDC.

### **CDC-RFA-DP-23-0020 A Strategic Approach to Advancing Health Equity for Priority Populations with or at Risk for Diabetes**

#### **EVIDENCE-BASED APPROACHES TO DIABETES MANAGEMENT**

1. Strengthen self-care practices by improving access, appropriateness, and feasibility of diabetes self-management education and support (DSMES) services for priority populations.
  - a. Increase access to and participation in American Diabetes Association (ADA)-recognized and Association of Diabetes Care and Education Specialists (ADCES)-accredited DSMES services among priority populations with diabetes.
  - b. Increase access to and participation in complementary diabetes support programs and services.
2. Expand availability of ADA-recognized and ADCES-accredited DSMES services as a covered health benefit for people receiving Medicaid benefits and employees with diabetes.
3. Prevent diabetes complications for priority populations through early detection.
  - a. Increase diabetic retinopathy screening in priority populations with diabetes.
  - b. Improve early detection of chronic kidney disease (CKD) in priority populations with diabetes.
4. Improve acceptability and quality of care for priority populations with diabetes.
  - a. Increase the adoption or enhancement of team-based care for people with diabetes supported by sustainable payment models to include pharmacists, community health workers (CHWs), behavioral health professionals, and other culturally competent personnel (e.g., registered dietitians, patient navigators, and others) as critical members of the care team.
  - b. Increase the adoption and use of clinical systems and care practices (e.g., health information technology (HIT)/electronic health records (EHRs), clinical decision support tools, and learning collaboratives) to improve the quality of care and resulting health outcomes for people with diabetes in alignment with the ADA Medical Standards of Care in Diabetes.

#### **EVIDENCE-BASED APPROACHES TO TYPE 2 DIABETES PREVENTION AND RISK REDUCTION**

5. Increase enrollment and retention of priority populations in the National DPP lifestyle intervention and the Medicare DPP by improving access, appropriateness and feasibility of the programs.
6. Expand availability of the National DPP lifestyle intervention as a covered health benefit for people receiving Medicaid benefits and/or employees and covered dependents at high risk for type 2 diabetes.
7. Improve sustainability of CDC-recognized National DPP delivery organizations serving priority populations by establishing or expanding National DPP umbrella hub arrangements

#### **POLICY & SYSTEMS-LEVEL SUPPORT FOR DIABETES MANAGEMENT AND/OR TYPE 2 DIABETES PREVENTION**

8. Increase and sustain DSMES and National DPP delivery sites within pharmacy networks and chain pharmacies to improve reach to priority populations.

9. Improve the sustainability of CHWs by building or strengthening a supportive infrastructure to expand their involvement in evidence-based diabetes prevention and management programs and services.
  - a. Awareness: Increase awareness of the competencies, roles, and skills of CHWs as a workforce and their effectiveness in evidence-based interventions like the National DPP lifestyle intervention and DSMES services.
  - b. Availability: Increase availability of CHWs who are fully integrated in delivery of the National DPP lifestyle intervention and DSMES services.
  - c. Workforce Development: Develop training and career ladders that build on CHW values, expertise and collective vision of their roles in communities and systems; eliminate barriers that influence CHW access to relevant training/career ladders and involve CHWs in their development and support mentoring within the CHW profession.
  - d. Financing/Coverage: Increase public and private payer and employer coverage of services provided by CHWs. Advance financing options that prioritize broad CHW roles, including work addressing health disparities and SDOH in Medicaid and beyond.
  - e. Policy Change: Establish policies and practices to define and promote CHW-led research agendas and projects involving CHWs in the process.
  - f. CHW Networks: Support CHW networks to strengthen and expand their capacity for training, policy development, promotion of the CHW profession, and mentoring.
  - g. Data Collection: Support relevant data collection at the employer, state, and national level to assess and document progress and determine additional needs/gaps.
  - h. Best Practices: Develop, disseminate, and promote CHW-led best practices.
10. Improve the capacity of the diabetes workforce to address factors related to SDOH that impact health outcomes for priority populations with and at risk for diabetes.

## **Part 5 – Budget Blueprint**

*To implement the proposed strategies, MHD and the Missouri Diabetes Program anticipate pursuit of the following policy changes and budget considerations:*

### **1. Diabetes Prevention and Management Programs**

The Missouri Diabetes Program will continue to support National DPP, DSMES and other evidence-based lifestyle change programs by collaborating with payers and relevant public and private sector organizations within the state to expand the availability of these programs as a covered benefit for Medicare, Medicaid, state/public employees, and employees of private sector organizations. While Medicare and Medicaid coverage exists, the Medicaid MCOs must engage with program suppliers to increase awareness of the benefit, increase program referrals and enrollments and increase program retention. Future work will continue encouraging Missouri employers to provide coverage for their insured populations.

### **2. Addition of CHWs as Providers**

Based on pilot project findings, the annual estimated cost savings for individuals participating in the MHD CHW program will be ~\$1,476, realized within six months of a participant beginning the program.

Regarding future planning, adding CHWs to MHD programs would require the activation of certain Current Procedural Terminology (CPT) codes for billing. Activating these CPT codes would impact the MHD budget and require additional appropriation authority. In addition to activating the

CPT codes, MHD will need to define eligible participant populations and eligible provider credentials, identify which practices can add them, and thoroughly evaluate the cost model.

In addition to making CHWs providers, MHD is proposing to add funding to the budget that incorporates the salaries of CHWs. This funding will be added to the per-member-per-month payment for core team members of the PCHH program.

The Diabetes Program will continue to convene key stakeholders quarterly to support CHW work and advocate for establishing policies for reimbursement by third-party payers. Funding from the 2320 cooperative agreement will cover training expenses (including books and supplies) for approximately 130 CHWs per year through spring 2027.

## ENDNOTES

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